An Empirical Research of Consulting as a Service(CaaS) On Customers' Satisfaction and Continuation Based on an Extended Expectation-Confirmation Model

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Abstract

Consulting as a Service is growing rapidly all over the world, and especially in Finland. Many big companies utilise the help of external developers in order to build reliable and high quality solutions. In order to concentrate on what is valuable for the customer an important relationship different customer-company interactions should be found. That will help companies to concentrate on the points that customers value and improve in these fields in the future.

The goal of this thesis is to build an extended expectation confirmation model (ECM) as the main research model and to utilise it for the collected data. In order to find out the constructs to be used within the ECM, systematic literature review is conducted and after the constructs are counted by number of times mentioned in other studies. Appendix consists of the list of primary studies selected for the literature review and in the thesis there is a table with the calculated constructs and in which study they are mentioned. After that the final research model is built with the most valuable constructs for the company from the most frequently used constructs.

The results of the research supported such hypotheses as social influence has a positive effect on satisfaction, social influence has a positive effect on trust and satisfaction has a positive effect on trust. While the following hypotheses are not supported: trust has a positive influence on continuance intention, service quality has a positive influence on satisfaction, and service quality has a positive influence on trust. The more detailed description can be found in the discussion part.

Keywords
expectation confirmation model (ECM), continuance intention, satisfaction, service quality, trust, social influence

Supervisor
University lecturer Pertti Seppänen

Foreword

Great thanks to my supervisor Pertti Seppänen for his time and patience, his support with valuable advices and comments regarding the way of scientific writing.

Thanks to Nitor with the opportunity to work in such a great company and to be able to contribute with interesting research.

And of course, thanks to my fiance by supporting me while writing the thesis and being busy during the past months of hard work.

Aleksandr Namaniuk
Helsinki, March 10, 2020

Abbreviation

AVE	Average Variance Extracted
CR	Composite Reliability
CaaS	Consulting as a Service
EC	Exclusion Criteria
ECM	Expectation Confirmation Model
ECT	Expectation Confirmation Theory
IC	Inclusion Criteria
PLS	Practical Least Squares
RQ	Research Question
RevQ	Review Question
SLR	Systematic Literature Review

Contents

1. Introduction

Information technology industry is one of the fastest growing industries in the past decades surrounded by digitalization. Companies experience a shortage of software developers with up-to-date technology stack to develop and maintain software products. With this reality, it is very challenging for companies to find the right people with the required skills and knowledge of technologies for their teams to develop new features and maintain legacy code of the product. IT consulting companies, or so called Consulting-as-a-Service (CaaS), provide advisory services of their expertise in developing and maintaining information systems for their clients. While consultancy is the fastest growing industry in the world and there are customers ready to pay money, factors of clients' satisfaction and continuance intention are important to know in order to increase profits and revenues. (Haqqi, 2021)

Continuance of product or service usage is a core factor that influences the long term business success of the company by saving costs on acquiring new customers. Long-lasting relationships with the customer is more cost-efficient in comparison with attracting new clients to use the product or service. While supporting existing customers is five times cheaper for the company, than to get a new client, the chance of selling to a new lead is only 5-20%, while the success rate for old customers is 60-70%. And what is more important, increasing continuance on 5% increases profits by 25 to 95% (Bustos, 2015). Customer retention is the term used to describe the willingness of the customer to stay with the existing product or service provider, what follows in clients high probability to acquire a new type of product or service and with a 30% higher price range. These results provide an understanding of how important for companies to focus on customer retention and support clients' continuance intention of the product or service. (Bustos, 2015)

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The objective is to study the continuance of a service in a case company Nitor. The study is done by analysing the data from a questionnaire with an expectation confirmation model (ECM), and describing the results. The second goal of this thesis is to identify what constructs should be used in an ECM to find which constructs have influence on customer continuance intention of the service in an IT-consulting company. The following are the objectives in this paper:

1. What knowledge exists about the companies that provide consulting services?
2. What constructs should be used in ECM to examine continuance intention?

In order to achieve this goal and collect existing information about the previous studies systematic literature review (SLR) is conducted in chapter 3. When constructs that influence customers' continuance intention towards Nitor's services are found they are required to build an ECM model in chapter 4.

Nitor[1] is an information technology company located in Helsinki, Finland that provide consulting services in digital solutions. Company customers are the study group for the study. A questionnaire has been conducted by Nitor to existing customers since 2016, and in this study, this questionnaire was used to analyse the extended research ECM model.

[1] www.nitor.com

1.1 Expectation confirmation theory and model

According to Oliver (1980) expectation confirmation theory (ECT) points that expectations as a pre-consumption and confirmation as a post-consumption build satisfaction. The idea behind the ECT is straightforward, firstly, before customers purchase or start to use the product or service they form their own expectations. In the next stage, the customer uses an application or service and if it fits or exceeds overall expectations, for example about performance, customers are satisfied, while on the other hand if it does not meet their requirements or they do not find it useful, so the product or service usage is disconfirmed the customer is dissatisfied (Oliver 1980). ECT theory is widely used in various papers that investigate the continuance intention of users in such sectors as online banking, online brand communities, bookselling websites, smart fitness wearables, restaurants, tourism etc (Han et al., 2018; Lee, 2010).

Expectation confirmation model was developed by Bhattacherjee (2001) that estimates customers' sustained actions in order to evaluate the factors impacting clients' continuance intention. Instead of concentrating on both pre- and post-consumption aspects, ECM concentrates on post-acceptance criteria. In this thesis for a better understanding of customer's continuance intention of consulting-as-a-service, an extended Expectation Confirmation Model (ECM) with additional constructs is used to find the factors that influence clients' continuation of applying information system products in their business models.

1.2 Consulting as a Service

CaaS means working on behalf of a consultant who can solve business - related problems through technology and techniques (Gillespie, 2021). Consulting services enable companies to integrate ad hoc strategies and solutions in order to achieve the balance between business and IT and to improve existing ones. Consulting companies provide knowledge as a key service to their customers (Jensen et al., 2010). Consulting as a term by Nissen (Mauerer & Nissen 2014) is defined as a professional service and ability to solve the business problem independently or in close cooperation with the client. In comparison with in-house product development, consulting is limited within some period of time and is required for some clear business goals to accomplish. Nowadays companies understand that to stay in business and be competitive they should develop new solutions with IT-driven business models. Technologies are developing to remove the need for in house infrastructure, the popularity of mobile devices is growing, cloud computing is more attractive, IT shops decrease the number of computers on-premises (Kagermann et al., 2010).

Consulting-as-a-Service (CaaS) provides a consultant or a whole team to another business in order to closely work on-premises or remotely as an addition to the company's own resources. The speed with which CaaS specialists may be integrated and make rapid impact distinguishes them from typical consultants. CaaS provides better results as the team works constantly together as experts need to support the strategy and business operational requirements of the client. CaaS is more customer-centric, and therefore the focus is changed from selling an application or service without maintaining the product to supporting customer business and succeeding together. (Smith, 2019)

Thesis includes the following structure: Section one as an introduction. Section two describes more about research problems and methodology, with set research questions for the thesis. Section three provides information on the conducted systematic literature review and its results. Section four provides the information about the research model used in the thesis. Fifth section describes the findings of the analysis. Section six describes discussions and implications within the thesis research, and also insights for future studies. The last section provides the conclusion of this study.

2. Research problem and methodology

The ECM has been in use for various studies regarding continuous intention within different segments and topics. This thesis aims to study what factors influence consultancy software development continuance intention based on ECM. This chapter describes the research questions and methodology.

2.1 Research problem

ECM was inherited from ECT and was used for different research studies to investigate factors of continuance intention of various information systems since the 2000's such as usage of mobile instant messaging, e-learning, banking services, web-based services, mobile-nursing application, business analytics, smartwatch usage and others. It is important to research the area within IT consulting companies to create a unique value for the business in the specific market, but it is also important to know what papers have been written on this topic and what results have been gained. In order to provide the latest and most relevant knowledge the year range of the reviewed studies is taken for the past 15 years.

Research Question 1 (RQ1): What studies related to IT consulting continuance intention other researchers have done based on ECM?

Research Question 1.1 (RQ1.1): Is it possible to use ECM for IT consulting company continuance intention?

Research Question 2 (RQ2): What factors should be integrated to ECM for investigating continuance usage of IT-consulting services provided to other companies?

This thesis targets to find factors that have an influence on clients decision to continue using the service provided by Nitor company that provides the IT consulting services for other companies to improve the performance within a company or either to develop and maintain a unique solution, that can be a mobile or computer application which they will provide for users to their own customers.

2.2 Research methodology

In this thesis, quantitative research was used as the research methodology. Quantitative research is "the process of collecting and analysing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalise results to wider populations (Bhandari, 2021)." Quantitative research was used to collect and analyse data in order to find patterns in customer behaviour, make predictions and recommendations for business and generalise to the IT consultancy market. In this section, the research phases are reviewed and each step is described in more detail.

Table 1. Research stages

Stage title	**Stage goals**
Stage 1: Systematic literature review	● To analyse the current amount of papers regarding the ECM used for IT consultancy ● To develop a protocol ● To formulate review questions ● To evolve the search with inclusion and exclusion criteria ● To establish a strategy for search method and search concepts ● To provide quality assessment process ● To do data synthesis method ● To conduct research ● To answer research questions
Stage 2: Research model building	● To create a model to provide the base to analyse the results
Stage 3: Data pre analysis validation	● To validate that data is suitable for ECM usage
Stage 4: Data analysis	● To analyse data with SPSS
Stage 5: Research model evaluation	● To analyse research model with AMOS software

2.2.1 Systematic literature review

In order to get the relevant knowledge of customer continuance intention in consultancy SLR is used, because this is a valuable way to collect and evaluate existing papers in the field (Poklepović Peričić & Tanveer, 2019). As well to understand how to do the research based on ECM, to find what constructs were used previously by other researchers, and which of them were successful combinations to influence customers' continuance intention in IT consultancy. This systematic literature review is following Kitchenham and Charters (2007) guidelines.

"A systematic literature review (often referred to as a systematic review) is a means of identifying, evaluating and interpreting all available research relevant to a particular research question, or topic area, or phenomenon of interest" (Kitchenham & Charters. 2007).

Conducting SLR provides the following advantages described by Kitchenham and Charters (2007):

- Aims to minimise bias
- Preplanned methodology with predefined outcome measures
- A set search strategy
- Comprehensive systematic searching including predefined databases and unpublished data
- Systematic quality assessment of studies documented

2.2.2 Research model building

Client satisfaction is essential for business sustainability as a service provider and is a key metric for any long-term customership. The objective of this study is to develop a model that can be applied to the IT software consulting industry. This model is based on ECM, and it will offer a few more dimensions that will contribute to maintaining customer retention. In order to rely on the existing knowledge in this area SLR was conducted and the most used constructs that were already analysed by other authors were collected, this information can be found in chapter 3. More information about extending the ECM with additional constructs and how they are connected to each other can be found in chapter 4.

2.2.3 Empirical data selection

Data is acquired through a third-party company called Onway[2], which is hired by Nitor to conduct questionnaires and collect data from various clients. Because the data contains an excessive amount of information for our study, only the most significant questions were chosen for examination. The selection of the necessary questionnaire questions and answers for data analysis is done in order to collect the important information and discover precise results. Irrelevant data was not included in the studying area and was not used anyhow.

2.2.4 Analytical methods

To analyse the data in this study, a two-step procedure was followed. Using reliability and validity research, the fitness and construct validity of the research model were examined. The structural equation model is next investigated in order to validate research hypotheses. Confirmatory factor analysis was used to demonstrate that the suggested constructs are valid and reliable in predicting long-term customer intentions.

For analysing thesis data a statistical package for the social sciences (SPSS) software is selected, as it is a widely used and reliable way to interact with social science data, and it has a lot of built-in functionality to work with statistical analysis (Jordan, 2021). IBM SPSS 28.0 was used to undertake descriptive analysis, reliability analysis, validity analysis and confirmatory factor analysis to assess the composite reliability and validity of the gathered data. AMOS 23.0 was used to develop a structural equation model (SEM) to assess the expanded ECM model's linkages and assumptions.

2.2.5 Research model evaluation

AMOS was used for proposed ECM model validation. The total 326 valid questionnaire data were imported and visualised for model visualisation in it. Prior to model validation, the model fit was analysed by five commonly used model-fit measures: 2/df (3), GFI (>0.90), RMSEA (0.08), CFI (>0.9), and NNFI (>0.9). The structural equation model (SEM) in AMOS 23.0 was conducted to validate the study model and presented 11 hypothesised correlations between 7 constructs.

[2] www.onway.fi

3. Systematic literature review

In this thesis systematic literature review (SLR) was done to investigate the amount of literature written about IT consulting under ECM approach and what other relevant papers exist that use ECM for evaluating service. The steps for literature review were the following: planning the review, conducting the review, search strategy and process, inclusion and exclusion criteria, quality assessment, quality, data synthesis, review conduction.

The main benefits of using SLR is explicit methodology within the process of conducting the review, that helps to replicate the documented steps by another independent researcher (Kitchenham & Charters. 2007).

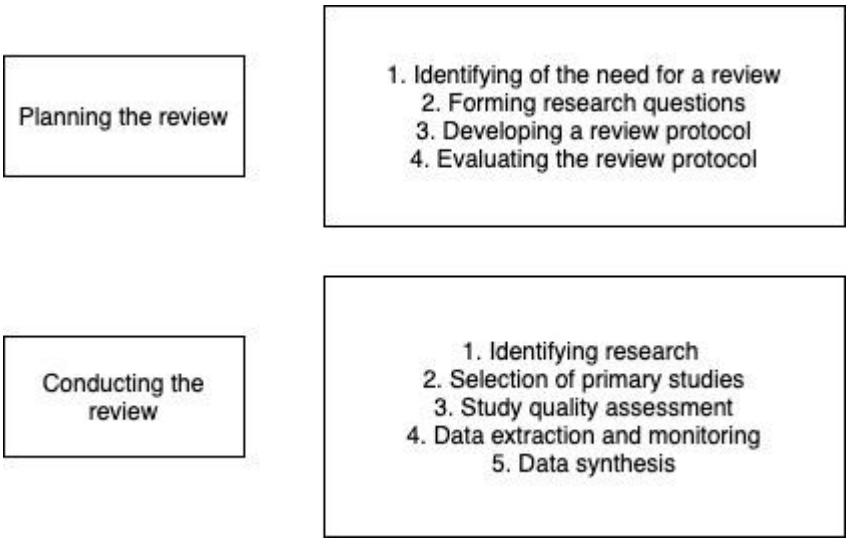

Figure 1. Systematic literature review process

3.1 Planning the review

This section describes the first step in SLR and in more detail what is the need for the review, how review questions are specified. These steps help to create a protocol that will be used to evaluate the review. By Kitchenham and Charters (2007) protocol purpose is to decrease research bias. The inclusion and exclusion criteria are used to improve the final list of selected papers for conducting the review.

Identifying the need for the review

The purpose of conducting the review was to find the existing knowledge about the usage of ECM in the IT-consulting sector and increase quantity and quality on the knowledge base in this topic. If no existing literature is found it means that there is no data of how to use ECM for IT consulting and it is valuable to know if it is possible to use it, and what the outcome results are.

Specifying the review questions

In this section the research questions are specified in order to use an ECM to analyse the data existing knowledge should be collected and analysed, this is the first review

question. To build the final research model the constructs should be selected from primary studies by counting the amount of used constructs in those studies within the studying area, this is the second review question. The following research questions are addressed in this thesis:

Review Question 1 (RevQ1): How much ECM activity exists that is related to services?

Review Question 2 (RevQ2): What are the most used additional constructs relevant for services?

Review protocol development and evaluation

This review protocol contains information about all the methods handled during the SLR, such as review questions, search strategy, pilot search, inclusion and exclusion criteria, quality assessment, data synthesis, and results review.

Search strategy

The aim of the SLR is to gather and analyse as much relevant to the topic of studies as possible. And in order to achieve these results, a search strategy should be developed. Before the actual research, it is suggested to conduct a pilot search in order to get the estimated amount of relevant studies.

Pilot search

Kitchenham and Charters (2007) explained that before the actual SLR it is beneficial to do a pilot search in order to understand the relevance of the search area and the approximate amount of papers written with the particular keywords. The pilot search was done with the use of Google Scholar on the 10 of September 2021. By searching for the query of expectation confirmation model without quotes found 446000 results. By specifying the topic and adding it consultancy without quotation marks to the search showed the result of 92000. Using the quotation marks for both keywords "expectation confirmation model" and "it consulting" with the logical operation AND gave the result of 42 papers.

Databases

Kitchenham and Charters (2007) suggested using digital databases for conducting the SLR in order to collect reliable studies. In order to spread the research covers the following databases were used:

- ACM Digital Library
- Web of Science: contains 22000 peer-reviewed journals
- SpringerLink: includes over 1200 peer-reviewed journals
- Scopus: includes 23 500 peer-reviewed journals

Search concepts are divided into three levels as shown in table 3. The first concept level is related to ECM, the second level is related to continuance intention, and level three is related to a deeper level of search string in order to decrease the number of unrelated papers and to increase the number of reliable studies.

Table 2. Search concepts

Concept 1	**Concept 2**	**Concept 3**
Expectation confirmation theory	Continuance intention	service
Expectation confirmation model		consulting

Inclusion and exclusion criteria

The specific criteria should be applied before the research in order to select the studies that will be used to answer research questions. After the criteria are applied it will support researchers to conduct a literature review with fewer biases. These should happen in the defining protocol stage and criteria should be formed with relation to research questions. (Kitchenham, 2004)

The following inclusion criteria (IC) are used in this thesis to select studies from databases:

IC1: ECM model is used in the context of empirical study
IC2: Paper should be an article, book or book chapter, journal paper, conference paper
IC3: Paper uses fully or partly ECM or ECT or related to CI
IC4: Paper is on English
IC5: Full paper is available for use
IC6: Paper is peer-reviewed

Also exclusion criteria (EC) should be defined in the same way to define the related papers:

EC1: Paper is not based on ECM or ECT
EC2: Paper is before January 2000
EC3: Paper is a duplicate from another database
EC4: Paper is not written in English
EC5: Full paper is not available

Title, keywords and abstract are the ground for the inclusion and exclusion criteria. A full paper should be read if it is difficult to decide on inclusion and exclusion criteria to include or to exclude the study. (Kitchenham, 2004)

3.2 Quality assessment

By Kitchenham and Charters (2007) quality assessment in the context of SLR is used to increase the validity of the search results and decrease bias. The quality assessment questions used in this thesis can be found in table 3.

Table 3. Quality assessment

Quality assessment	**Yes / No**
Paper contains explicit information about research methodology	
Paper contains the results	
Paper contains discussion chapter with limitations and future research information	

Kitchenham (2004) describes the following reasons of necessity to establish quality assessment for the collected studies:

- To offer more detailed inclusion/exclusion criteria.
- To find out if quality differences describe the reasons for differences in the research results.
- As a means of weighting the importance of individual studies when results are being synthesised.
- To offer the interpretation of findings and determine the strength of inferences.
- To offer recommendations for new research.

3.3 Conducting review

Search strings

Within each library was used a specific search string related to the database search syntax and logical operators in accordance with Table 2 of search concepts. Each concept level is combined with an AND operator, while within one concept level operator OR is used. The final search string:

(“Expectation confirmation model" OR “Expectation confirmation theory”) AND "continuance intention" AND (service OR consulting)

After the studies were collected and counted the amount of studies found was 276, the amount of excluded studies was 190, the amount of duplicate studies removed was 30, and the total amount of primary studies left was 56. The complete list of primary studies can be found in Appendix A. Table 4 represents the amount of studies found within each database and amount of studies left after the exclusion criteria process or removing the duplicates. Studies found from the databases were checked on the availability to download and read. Each study was manually checked with inclusion and exclusion criteria, double checked on duplicates and left for further validation as a selected primary study.

Table 4. Search database results

	ACM Digital Library	Web of Science	SpringerLink	Scopus
Papers found	47	98	74	57
Papers excluded	29	75	48	38
Duplicates	12	9	3	6
Papers left after validation	6	14	23	13
Total	56			

3.4 Data synthesis

At this stage of SLR, the data that is collected as a primary study is analysed and merged together. Data synthesis can be done with the use of two approaches, such as quantitative (meta-analysis) and non-quantitative (descriptive). As well data synthesis is required to be added as a part of SLR protocol, shown in figure 3. (Kitchenham & Charters, 2007)

In this thesis, the information related to the analysis of various services and consulting services was collected and analysed. As well, constructs for an extended ECM model in the field of services and consulting services within different sectors were collected and summarised. By Kitchenham (2004) the aim of the method is to summarise data collected from primary studies with tables in order to answer research questions.

3.5 Review results

The last stage of SLR is to review the results. After all the papers have been included into the primary studies list, the constructs were written down and the number of iterations of repetitiveness is counted. The first review question (RevQ1) is answered in section 3.3 of this study when 56 papers were found that are related to the continuance intention for services or consulting services with the usage of extended ECM. The more detailed information for the SLR and all the constructs used in the study can be found in the appendix A.

After calculating of the constructs used within the primary studies and answering on the second review question (RevQ2) the most mentioned constructs except confirmation, continuance intention and satisfaction are perceived usefulness, perceived ease of use, social influence, service quality, trust and custom constant specific for the particular service, with the frequency of more than 9 mentionionings within SLR. Other constructs have less than 6 or lower number of iterations and decided to not be included in the final extended ECM for the thesis. Constructs that had less than 4 mentionionings such as price value, hedonic value, subjective norms, task technology fit, familiarity, system quality, intimacy, utilization and prior experience were not included into the table.

Perceived Ease of Use is not included in the final research model as it is out of interest scope of Nitor. On the other side, social influence and service quality are specifically highlighted by the company and therefore included in the final model. Custom constant

as an attribute was mentioned within 18 papers, but this construct is not added to the model as it is out of scope with Nitor interest.

Table 5. SLR results of construct amount used in primary studies

Construct name	**Total count**	**Primary Studies**
Perceived Usefulness	31	PS3, PS5, PS6, PS7, PS9, PS10, PS11 , PS16, PS17, PS18, PS19, PS23, PS25, PS26, PS27, PS29, PS30, PS32, PS33, PS35, PS37, PS39, PS42, PS44, PS46, PS47, PS49, PS50, PS51, PS52, PS53
Custom constant as an attribute	18	PS1, PS2, PS3, PS5, PS6, PS9, PS11, PS13, PS19, PS20, PS21, PS22, PS23, PS24, PS25, PS30, PS31, PS55
Perceived Ease of Use	13	PS3, PS9, PS10, PS11, PS17, PS21, PS23, PS29, PS32, PS35, PS42, PS49, PS50
Social Influence	11	PS1, PS8, PS12, PS20, PS28, PS34, PS35, PS43, PS45, PS48, PS54
Trust	10	PS5, PS6, PS8, PS10, PS11, PS12, PS15, PS30, PS35, PS48
Service Quality	10	PS5, PS9, PS10, PS12, PS13, PS21, PS39, PS40, PS44, PS50
Attitude	6	PS11, PS12, PS14, PS22, PS42, PS55
Perceived Risk	5	PS2, PS8, PS12, PS30, PS35, PS42
Habit	5	PS1, PS8, PS27, PS28, PS51
Hedonic motivation	5	PS8, PS28, PS30, PS33, PS35
Perceived value	5	PS13, PS32, PS41, PS43, PS54
Effort Expectancy	4	PS1, PS8, PS12, PS28
Security	4	PS1, PS5, PS10, PS29
Facilitating Conditions	4	PS1, PS2, PS8, PS28
Performance Expectancy	4	PS1, PS8, PS28
Utilitarian value	4	PS14, PS15, PS31, PS34
Emotional Value	4	PS43, PS48, PS54, PS56
Word-of-mouth	4	PS2, PS14, PS21, PS55
Self Efficacy	4	PS16, PS18, PS32, PS52

4. Research model

The expectation confirmation theory (ECT) suggests that the satisfaction level of users towards the usage of the product or service is related to the intention of customers to repurchase it . Before the users start to use the product or service the first expectations are formed in time (t1). Within some time while the customer is using the product or service the second stage which is an evaluation of the performance is confirmed at a time (t2). Later customers understand based on the level of internal satisfaction or dissatisfaction whether the level of expectation is in a balanced state with an actual performance of the provided service or product. The theory includes five constructs: expectation, perceived performance, confirmation of beliefs, satisfaction and repurchase intention. Figure 2 shows the relationships between these constructs. (Oliver 1980)

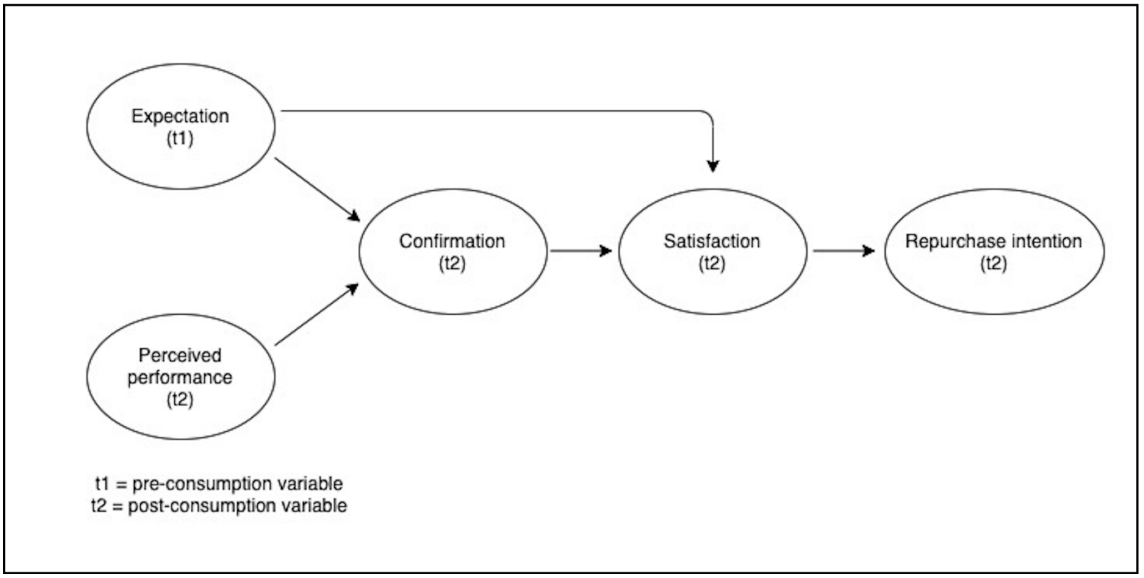

Figure 2. Expectation confirmation theory (ECT).

Presented by Bhattacherjee (2001) Expectation Confirmation Model (ECM) is focused on the post-adoption model and was built to find out the variables that are affecting the users' continuance intention of IS product or service. Figure 2 represents the ECM with four constructs, such as confirmation, perceived usefulness, satisfaction and continuance intention. Perceived usefulness is added to the model to show users' post-acceptance and to verify that the user gains the advantage of using the product or service, which reflects users' expectations before the actual usage.

Confirmation is the only construct that is not affected by other constructs and reflects users' expectations about the overall benefits of using IS product or service and actual usefulness. The difference or the similarity between the expectations and post-adoption in usage form the final decision for the user to repurchase or not to use the product or service in the future. There are three possible ways for users to confirm or disconfirm continuance intention. The first case is when users' expectations meet the advantage of using the product or service and as a result the user repurchases or continues to use it. The second case is when the expectations exceed the overall performance of the service or product and as in the first scenario continues to use it. The third case is opposite to the first and second cases, and when the perceived usefulness of the product does not reach the level of expectations users' status changes to disconfirmation and the repurchase does not happen (Alraimi et al., 2015). By Bhattacherjee (2001) users may

experience inconsistent thoughts and attitudes, as their expectations are not fulfilled in the post-adoption stage because of product or service performance and advantages gained from it.

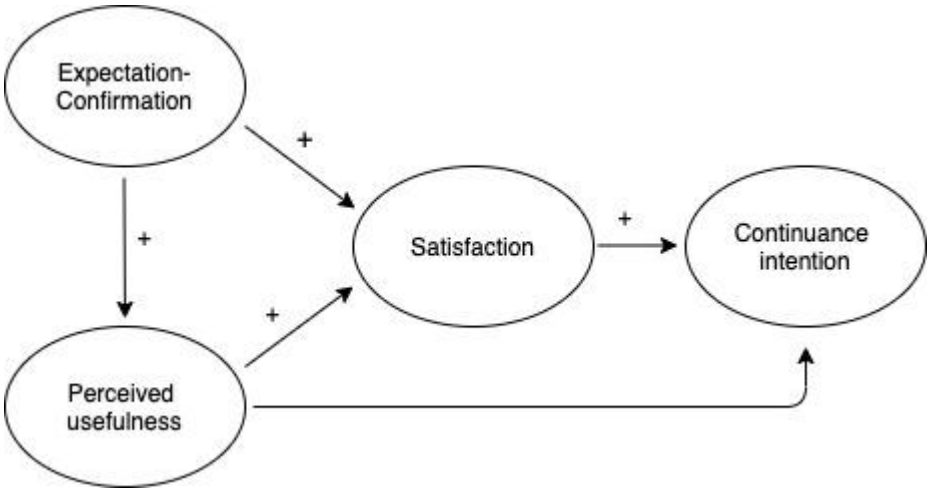

Figure 3. Expectation Confirmation Model (ECM).

4.1 Build research model

For this thesis extended expectation-confirmation model (EECM) is used in order to find more constructs that are positively related to continuance intention and satisfaction of customers within services. In order to find the most used constructs, that are also in the scope of Nitor company, the SLR is done and the selected constructs to be included in the model, except perceived usefulness, confirmation and satisfaction that are already in the ECM are the following: service quality, social influence and trust. The final extended ECM is shown on figure 4, with further description of hypothesis positive relationship.

4.1.1 How to add new constructs to ECM

How to add service quality to ECM?

Service quality was mentioned in the SLR several times and is in the scope of Nitor interest. In general, service quality perceptions are described as a consumer's assessment of, or impression of, an entity's overall excellence or superiority (Dagger et al., 2007). Thus, in this study, we define service quality as a user's perception of the overall quality of Nitor's offered services to consumers. Ye et al. (2019) in their research confirmed that service quality is crucial in mobile news apps, which improves user satisfaction and decreases switching costs. According to research by Cheng (2020) customers' satisfaction and continuance intention to use platforms are explained directly or indirectly by service quality. Srivastava and Vishnani (2021) found a positive relationship between service quality and satisfaction. Hence, Path 5 and Path 6 were added into the extension model.

How to add social influence to ECM?

Social influence is included in the extended ECM in different articles and was mentioned as a construct 11 times. In the research by Odusanya et al. (2020) social influence is used to check the positive relationship on trust, even though it is not supported Nitor is interested in verifying the relationship of social influence and trust.

In the research from Tam et al. (2018) the hypothesis that social influence has a positive influence on continuance intention on using mobile applications was not supported, thus it will not be used in such a way in this thesis either. Nitor has specified to check the relationship of social influence and satisfaction. Path 7 and Path 8 proposed social influence has positive influences on satisfaction and trust accordingly.

How to add trust to ECM?

Perceived trust is described as consumers' faith in a service provider's dependability and integrity (Morgan and Hunt 1994) as well as their expectation that the provider will deliver on its promises (Eisingerich and Bell 2008). The empirical results by Liao et al. (2021) unveil that firms' satisfaction significantly mediates the effects of trustworthiness. The findings by Liébana-Cabanillas et al. (2021) indicated that one of the most key determinants of continued intention of using NFC payments is trust. According to the research by Odusanya et al. (2020) trust has supported to have a positive influence on continuance intention of electronic retail platforms. Prahalad (2004) identified perceived trust as an important aspect in creating long-term connections with clients in the BOP market. As a result, the research presented above implies that trust, satisfaction, and persistence are connected phenomena. In this study, we proposed satisfaction has a positive impact towards trust, which eventually has direct influence on continuous intention (Path 10 and Path 11).

As illustrated in Fig. 4, the research model extends ECM perspective by framing the impact of service quality, social influence and trust. Service quality variable is included into the ECM model by Bhattacherjee since this new variable was proven by Srivastava and Vishnani. Specifically, this study attempts to examine service quality's influences on satisfaction and trust, which lead to users' continuance intention. Social influence is the second variable which has the same role as service quality, which used to study its influence on satisfaction and trust. Trust is the third variable in this study, which has direct influence on continuous intention.

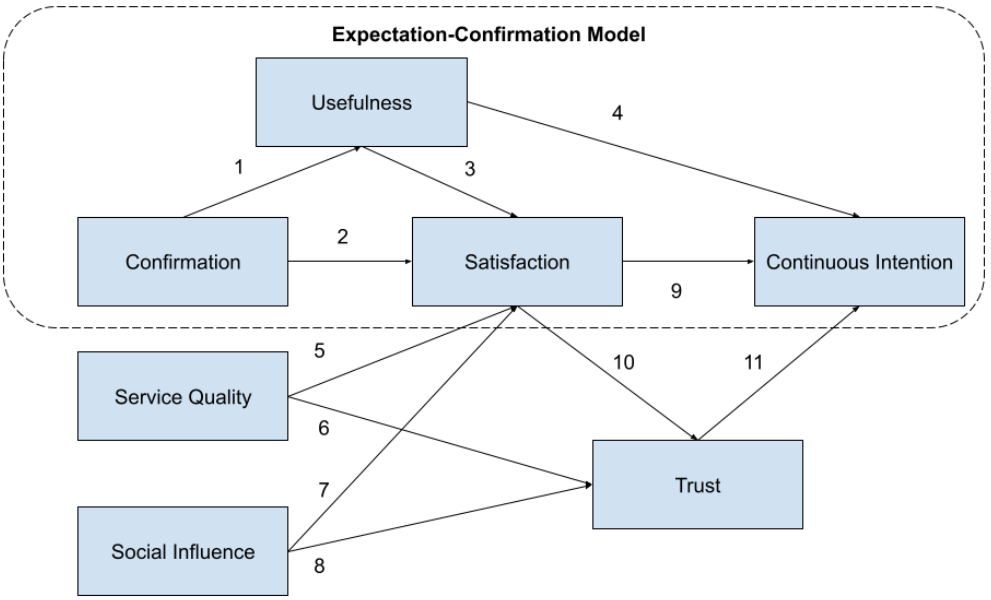

Figure 4. Research model

4.2 Hypotheses of the research model

The research model includes four ECM constructs, such as expectations, confirmation, perceived performance, satisfaction and continuous intention and three additional constructs: service quality,social influence and trust. In this chapter, all the constructs will be described and for each connection, the hypotheses are created.

4.2.1 Confirmation

According to Lee (2010) confirmation of expectations is determined by the perceived advantages achieved by users as a result of their interactions with IT products or services. According to the ECM, users' confirmation of expectations has a favourable impact on perceived usefulness, and confirmation is also linked to happiness with IS usage since it signifies that the expected advantages of IS use have been realised (Bhattacherjee 2001). Furthermore, confirmation implies that customers receive expected advantages from IT product or service, resulting in a favourable impact on satisfaction and perceived usefulness. Thus,

H1 Confirmation is positively related to perceived usefulness.
H2 Confirmation is positively related to satisfaction.

4.2.2 Perceived Usefulness

Perceived usefulness by Seddon (1989) is “the degree to which a user believes that use of the system will result in benefits being accrued to the user or the user’s organisation, and often includes increases to job performance and productivity”. In order to count the difference of customers' expectations after an experience of consuming and influence on further cognitive processes, Bhattacherjee (2001b) reviews perceived usefulness as a consumption expectation and shows that customers perceived usefulness is positively related to satisfaction and continuance intention. As well as described by Oliver (1980) perceived usefulness has a strong influence on post-purchase attitude and satisfaction. Thus,

H3 Perceived usefulness is positively related to customer satisfaction.
H4 Perceived usefulness is positively related to continuance intention of the service.

4.2.3 Service Quality

Lewis and Booms (1983) first calculate what quality of the provided services is acceptable by customers. Further research argued that service quality should be calculated as a ratio reflecting the overall long-term assessment of the service by consumers (Cronin and Taylor 1992). In rapidly evolving mobile development and web services development there is a growing need to understand service quality. As noted by Zeithaml (2000) service quality in e-commerce is represented by user-friendly websites as well as a seamless and consistent customers’ shopping experience.

Huang et al. (2015) define service quality as the difference between what people expect and what they get. By Gronroos (1994) perceived service quality is the result of continuous review of the consumers' experience. Several papers prove that high service quality increases consumers' satisfaction and trust by reducing the risks of malfunctions and problems (Almarashdeh, 2018; Zhou, 2013) As a result, a user will be satisfied if

the perceived service quality exceeds their expectations. Previous research showed that service quality is an important consideration in influencing user satisfaction (Brusch et al., 2019; Mohamad et al., 2017). Thus, the hypotheses are the following:

H5 Service quality is positively related to customer satisfaction.
H6 Service quality is positively related to customer trust.

4.2.4 Social Influence

Nitor specifically is concentrating on the company image and in this study will be used as a social influence from the customers point of view. Social influence reflects the extent to which an individual's attitudes, beliefs, and behaviours are influenced by referent others (Wang et al., 2013). Social influence is also related to trust gained from business partners, social media, and colleagues. It improves customer loyalty and continuance intention (Bhasin, 2019).

Venkatesh and Morris (2000), Venkatesh et al. (2000), and Hong et al. (2008) described that social influence has a strong relationship with behavioural intention. As described by Chaouali et al. (2016) social influence has a positive relationship with trust. In the context of this research, the greater the social influence, the greater the customer trust and customer satisfaction. Therefore, the hypotheses posit the following:

H7 Social influence is positively related to satisfaction.
H8 Social influence is positively related to trust.

4.2.5 Satisfaction

The satisfaction a customer gains while using a product or service is crucially important, and the most valuable during the first usages of the product or service adoption. As described by Chen (2018) and Shang and Wu (2017) the customer satisfaction from the service or the product during the first stages of the relationship has the biggest influence on continuance intention, continuous usage and loyalty towards the service or product. Positive customer satisfaction on the product or services provided by the company supports a positive attitude when the product or service consumers are satisfied with the product or service.

Satisfaction by Bhattacherjee (2001) is "an ex-post evaluation of consumers' initial experience with the service, and is captured as a positive feeling (satisfaction), indifference, or negative feeling (dissatisfaction)". Within ECM product or service satisfaction has a strong influence on continuance intention (Oliver 1980). Correlation of satisfaction and continuance intention is a part of the IS continuance model (Bhattacherjee 2001). As mentioned by Bhattacherjee (2001) the stronger the satisfaction, the stronger the continuance intention. Liebana-Cabanillas et al. (2019) provided results on a strong correlation between satisfaction and trust. Therefore,

H9 Satisfaction is positively related to customer continuance intention.
H10 Satisfaction is positively related to trust.

4.2.6 Trust

Trust is a crucial part of various business processes, that influences continuance intention because customers believe in long-lasting relationships (Ruiz-Mafe et al.,

2014). Some papers provide information on that various businesses create partnerships with other businesses that act on behalf of their customers by enhancing the trustworthiness, especially on the stage of adoption in order to focus on continuance intention (Slade et al., 2015; Shareef et al., 2018). Hence, the hypothesis suggests that

H11 Trust is positively related to continuous intention.

4.3 Summary of proposed hypotheses

In this study, there are eleven hypotheses which are related to customers' continuous intention in CaaS as described in table 6 below:

Table 6. Summary of proposed hypotheses.

Hypotheses
H1 Confirmation is positively related to perceived usefulness.
H2 Confirmation is positively related to customer satisfaction.
H3 Perceived usefulness is positively related to customer satisfaction.
H4 Perceived usefulness is positively related to the continuance intention of the service.
H5 Service quality is positively related to customer satisfaction.
H6 Service quality is positively related to customer trust.
H7 Social influence is positively related to satisfaction.
H8 Social influence is positively related to trust.
H9 Satisfaction is positively related to customer continuance intention.
H10 Satisfaction is positively related to trust.
H11 Trust is positively related to continuous intention.

4.4 Question design

Nitor developed the questionnaire, which consists of 21 multi-item scale questions. The research model contains seven constructs that were measured utilising 21 questions, three questions for each construct. The model was assessed using a 5-point Likert scale, with anchors ranging from 1 "strongly disagree" to 5 "strongly agree." All items were selected from a review of papers that have historically been validated by other researchers. The study items are stated in the table below, along with their references.

Table 7. Measurement instrument

Construct	Question	Source
Confirmation	Q1: The service level provided by Nitor is better than I expected	Bhattacherjee (2001)
	Q2: My expectations from using Nitor services was confirmed	
	Q3: My experience with Nitor was better than I expected	
Continuance Intention	Q4: Your view on our cooperation in the short term.	Bhattacherjee (2001)
	Q5: Your view on our cooperation in the future.	
	Q6: I would use Nitor services in the future	
Perceived Usefulness	Q7: Using Nitor services can enhance the effectiveness of our product	Bhattacherjee (2001), Davis (1989) Lee (2010
	Q8: Using Nitor services can provide better quality of our product	
	Q9: Using Nitor services can decrease our overall costs	
Service Quality	Q10: Nitor is professional in what we are doing	Ye et al., (2019), Srivastava and Vishnani (2021)
	Q11: Nitor has the ability to do its job well	
	Q12: Nitor provides its services within agreed deadlines	
Social Influence	Q13: Nitor is well known company to provide reliable software	Odusanya et al. (2020)
	Q14: I heard about Nitor work results from business partners	
	Q15: I am following one or several Nitor social media accounts	
Satisfaction	Q16: I am satisfied with the quality of company services	Bhattacherjee (2001), Lee (2010)
	Q17: I am pleased with my experience with Nitor	
	Q18: I am content with the provided product	
Trust	Q19: I trust developers in the question of technical stack used for our products	
	Q20: I trust Nitor to be trustworthy	
	Q21: I trust the quality of products developed	

4.5 Data Collection

Nitor has been focusing on customer service since its founding in 2007. This survey has been conducted in a systematic way since 2016, with annual data gathering. Over the years, 326 entries have been collected. Data was collected by the Onway company

during those years. These 326 datasets were used as the database in this thesis to validate the research model.

5. Data Analysis

A two-step approach based on structural equation models (SEM), containing structural model assessment and analysis models, as suggested by Anderson and Gerbing (1988), was used in the data analysis process of this study. Step 1: The construct validity of the research model was investigated using reliability and validity research. The second step is to investigate the structural equation model in order to validate research hypotheses. SEM was used in this study to analyse the defined relationships in the proposed ECM extended research model (Awang, 2015).

5.1 Assessment of the research model

Following the data analysis process outlined above, this study used SPSS 28.0 and AMOS 23.0. To validate the composite reliability and validity of the collected data, SPSS was used to perform descriptive analysis, reliability analysis, and validity analysis. Confirmatory factor analysis was conducted to ensure the proposed constructs are valid and reliable in predicting consumers' long-term intentions. AMOS was used to create a structural equation model (SEM) to test the relationships and hypotheses of the extended ECM model.

5.1.1 Descriptive analysis

In total, seven constructs of the study model were explored, as well as 21 construct-specific questions, with 3 questions per construct. 326 questionnaires were gathered. Table 7 contains the outcome which displays the mean, standard deviation, and average distributions for all constructions. Considering GDPR, in this study we cannot analyse the respondent distribution as the data is not publicly available.

The mean for confirmation2 and continuing intention2 is 3.96, whereas the mean for usefulness is 3.68. This demonstrates that Nitor's consumers have significant confirmation and ongoing interest in the company, but the usefulness is not as strong as other aspects. However, the standard deviation of usefulness is rather significant, indicating that opinions differ across respondents. Customers have a high level of trust in Nitor as a company and CaaS vendor, with an average of these 7 variables ranging from 3.73 to 3.90.

Table 7. Descriptive analysis of the measure.

Constructs	Construct items	MEAN	Std.Deviation	AVE
Perceived Usefulness	Usefulness1	3.79	1.040	3.74
	Usefulness2	3.76	1.007	
	Usefulness3	3.68	1.074	
Confirmation	Confirmation1	3.78	1.042	3.90
	Confirmation2	3.96	0.949	
	Confirmation3	3.95	0.947	
Satisfaction	Satisfaction1	3.75	1.001	3.76
	Satisfaction2	3.74	0.999	
	Satisfaction3	3.79	1.011	
Continuous Intention	Continuous intention1	3.78	1.042	3.73
	Continuous intention2	3.96	0.949	
	Continuous intention3	3.95	0.947	
Service Quality	Service Quality1	3.78	1.050	3.82
	Service Quality2	3.80	1.036	
	Service Quality3	3.90	1.062	
Social Influence	Social Influence1	3.80	1.019	3.87
	Social Influence2	3.89	0.946	
	Social Influence3	3.92	0.964	
Trust	Trust1	3.93	0.979	3.89
	Trust2	3.82	0.945	
	Trust3	3.92	0.945	

5.1.2 Internal Reliability, Convergent Validity and Discriminant Validity Analysis

Before confirming the research ECM model and hypotheses, the practical least squares (PLS) method was implemented to examine the proposed research model. Internal reliability, convergent validity and discriminant validity criteria were accomplished by following the guidelines proposed by Fornell and Larcker (1981). This phase ensures that the data accuracy is above the level required for scientific analysis.

Internal reliability was assessed using composite reliability (CR) and Cronbach's values, and convergent validity was measured using factor loadings and average variance extracted (AVE) values. Discriminant validity was reached among the variables by reaching the AVE for two constructs that are greater than their squared correlation (r2).

Internal Reliability and Convergent Validity Analysis

A reliability analysis is a test that evaluates the stability, consistency, and dependability of measurement data. Prior to analysis, a reliability study of the collected data in the questionnaire is required to ensure the reliability of measurement results. In this thesis, reliability analysis was utilised to evaluate the internal consistency of the questionnaire (Daneji, Ayub & Khambari, 2019). Many approaches, such as test-retest reliability, split half reliability, and Cronbach's alpha coefficients, can be used to measure dependability. Cronbach's alpha coefficients is the most commonly employed among these approaches when multiple-item concept measures are used in the research (Tavakol and Dennick, 2001). Cronbach's alpha coefficients approach can be applied to likert 5 scale, according to Andeniran's 2019 study. As a consequence, Cronbach's alpha coefficients were used for reliability analysis in this study.

Cronbach's alpha is normally between 0.0 and 1.0, and it rises as the inter-correlations between testing items rise. This means that the higher the Cronbach's alpha level, the more inter-correlations between test items, and thereby the higher the questionnaire's reliability. Cronbach's alpha of 0.0 indicates no consistency in measurement, whereas 1.0 indicates perfect consistency in measurement. (2015) (HOW2STATSc). According to Cortina's 1993 standards, if the Cronbach's alpha coefficients is greater than 0.9, the reliability of the questionnaire is outstanding; if it is higher than 0.8, it is good; if it is better than 0.7, it is acceptable; and if it is less than 0.6, it needs to be improved.

Cronbach's Alpha and composite reliability of each construct must be more than 0.7 for constructs to be considered reliable. According to Fronell and Larcker's (1981) validity convergence test, factor loading of each construct should be greater than 0.5, average variance extracted should be higher than 0.5, and composite reliability should be greater than 0.7. In conclusion, the recommended values for factor loading, Cronbach's Alpha, CR, and AVE are 0.5, 0.7, 0.7, and 0.5, correspondingly (Fornell and Larcker 1981). The lowest values of factor loading, Cronbach's Alpha, CR, and AVE are 0.745, 0.842, 0.848, and 0.651, accordingly, as shown in Table 8. Each value exceeded the recommended value, indicating that all constructs were dependable. As a result, internal reliability and convergent validity criteria were met.

Table 8. Construct reliability and convergent validity.

Construct	Construct Items	Factor loading	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Confirmation	Confirmation1	0.745	0.842	0.848	0.651
	Confirmation2	0.789			
	Confirmation3	0.880			
Continuous Intention	Continuous intention1	0.826	0.879	0.880	0.709
	Continuous intention2	0.891			
	Continuous intention3	0.807			
Satisfaction	Satisfaction 1	0.860	0.875	0.876	0.701
	Satisfaction 2	0.833			
	Satisfaction 3	0.819			
Service Quality	Service Quality 1	0.840	0.870	0.871	0.692
	Service Quality 2	0.857			
	Service Quality 3	0.798			
Social Influence	Social Influence 1	0.835	0.858	0.859	0.670
	Social Influence 2	0.834			
	Social Influence 3	0.785			
Trust	Trust1	0.838	0.854	0.854	0.662
	Trust2	0.803			
	Trust3	0.799			
Usefulness	Usefulness1	0.826	0.901	0.902	0.754
	Usefulness2	0.855			
	Usefulness3	0.922			

Discriminant validity analysis

Discriminant validity analysis refers to the degree between constructs that are actually different from other constructs (Hair, Black, Babinm and Anderson, 2010). According to Fornell and Larcker (1981), in order to establish discriminant validity, the AVE for two constructs must be greater than their squared correlation (r2) (1981). Table 9 displays the results for the discriminant variable. The bold numbers represent the square roots of the mean explained variance of the associated variable, while the other values are the factor correlation matrices. The square roots of AVEs for each construct are

greater than all the inter-construct correlations (in bold). This indicates that acceptable discriminant validity was reached among the variables.

Table 9. Discriminant validity index of variables in the measurement model

	Usefulness	Confirmation	Satisfaction	Continuous intention	Service Quality	Social Influence	Trust
Usefulness	**0.735**						
Confirmation	0.257	**0.807**					
Satisfaction	0.220	0.257	**0.837**				
Continuous intention	0.212	0.071	0.163	**0.842**			
Service Quality	0.229	0.129	0.192	0.143	**0.832**		
Social Influence	0.191	0.223	0.247	0.109	0.155	**0.819**	
Trust	0.287	0.295	0.178	0.027	0.142	0.277	**0.813**

In conclusion, the measurement model indicates adequate reliability, convergence, and discriminant validity.

5.1.3 Confirmatory Factor Analysis (CFA)

Two statistical tests were performed to determine whether the research constructs were suitable for factor analysis, which includes Bartlett Test of Sphericity and Kaiser-Meyer Olkin Measure of Sampling Adequacy (KMO). This study found the proposed constructs are suitable for factor analysis, and principal component analysis (PCA) method was conducted to reveal the factor pattern.

Evaluation of the Suitability of the Data for Factor Analysis

Two statistical tests were performed to determine whether the research constructs were suitable for factor analysis. The first is the Bartlett Test of Sphericity, which focuses on the constructs' interdependence. The second one is the criterion KMO (Kaiser-Meyer Olkin Measure of Sampling Adequacy) (Kaiser, 1974), which concerned with sample sufficiency.

In general, a KMO value of 0.7-0.79 is considered good, 0.8-0.89 is considered very suitable, and 0.9 and above is considered outstanding. In this case, if the KMO value is more than 0.70, factor analysis can be conducted (Byrne, 2013). Table 10 contains information on two factor analysis hypotheses. The KMO sum of analytical variables is 78.4 percent as a result of the computations. In the research, the KMO value (.784) was greater than the desired KMO value. The data's validity is determined to be met.

Furthermore, the statistical outcome of the Bartlett Sphericity test was significant (x2 = 3759.548, df: 210, p.0005). Additionally, the coefficients are not all zero, and the significant findings from the Bartlett Sphericity test imply that the data was generated using a multivariate normal distribution. As an outcome, the data acquired from the scale are acceptable for factor analysis.

Table 10. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.784
Bartlett's Test of Sphericity	Approx. Chi-Square	3759.548
	df	210
	Sig.	0.000

Determining the Factor Pattern

The principle component analysis (PCA) method was utilised as a factoring method in extracting the factors to be retained in order to disclose the factor pattern. The rotation method used was Varimax with Kaiser Normalisation. A total of 21 factors were explored, with factor 1 accounting for 24.726 percent of total variation and factor 21 contributing for only 0.875 percent of total variance.

Table 5 described the eigenvalues associated with linear components before extraction, after extraction and after rotation of the 21 extracted factors. As a result, for 21 factors, 7 components have eigenvalues greater than 1. These 7 factors are formed from Eigenvalues greater than one, hence there are only 7 factors that meet the conditions. (Septianingsih and Jerusalem, 2021)

Furthermore, the first component explains 24.726 percent of the total variation, the second component explains 12.022 percent, and the third, fourth, fifth, sixth, and seventh components explain 9.765 percent, 9.665 percent, 8.817 percent, 7.814 percent, and 7.163 percent, respectively. As a consequence, it was discovered that it contributed 79.972 percent of the entire value, indicating that these seven components explain the model 79.972 percent of the time. Based on this finding, varimax rotation was undertaken in SPSS for these seven factors to identify which items had a high correlation with which factor. The outcomes are shown in table 11 below.

The matrix is used to determine if the overlapping and factor load values of the items were within acceptable limits. According to Rustiogliu et al. (2021) study, two requirements must be met for an item to be overlapping, which includes:

- The acceptance level of an item in more than one factor gives a high load value.
- The difference between the load values of the item in two or more factors is less than .1.

In the exploratory factor analysis conducted in order to reveal the factor pattern of the model, the factor load value was determined as .30 (Septianingsih and Jerusalem, 2021).

Items that do not load any items (below .30), overlapping objects, and items loading multiple factors were omitted from the scale when assessing item factor loads. As a consequence, while viewing Table 11, it is evident that all of the items have loads greater than the acceptable threshold (.810), and no items overlap. Table 12 displays the factor pattern generated by the study, which retained all of the valid items from the analysis, as well as the factor load values and common variances of the items.

Table 11. Total variance

Component	InitialEigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.193	24.726	24.726	5.193	24.726	24.726	2.508	11.941	11.941
2	2.525	12.022	36.749	2.525	12.022	36.749	2.450	11.668	23.609
3	2.051	9.765	46.513	2.051	9.765	46.513	2.434	11.592	35.201
4	2.030	9.665	56.178	2.030	9.665	56.178	2.410	11.478	46.679
5	1.852	8.817	64.995	1.852	8.817	64.995	2.351	11.196	57.875
6	1.641	7.814	72.809	1.641	7.814	72.809	2.324	11.068	68.942
7	1.504	7.163	79.972	1.504	7.163	79.972	2.316	11.030	79.972
8	0.490	2.334	82.306						
9	0.404	1.925	84.232						
10	0.379	1.804	86.036						
11	0.364	1.736	87.771						
12	0.336	1.600	89.371						
13	0.303	1.441	90.812						
14	0.301	1.434	92.246						
15	0.286	1.362	93.608						
16	0.268	1.275	94.884						
17	0.245	1.166	96.050						
18	0.232	1.103	97.152						
19	0.223	1.061	98.213						
20	0.191	0.911	99.125						
21	0.184	0.875	100.00						

Confirmatory Factor Analysis (CFA) shows that instrument reliability is moderate, and Cronbach alpha reliability analysis findings of 0.842 are nearly comparable to 1. These findings show that the items have a high degree of confidence, indicating that the instrument is valid and reliable in predicting consumers' long-term intentions.

Table 12. Rotated Component Matrix

Component	1	2	3	4	5	6	7
Usefulness1	0.879						
Usefulness2	0.878						
Usefulness3	0.894						
Confirmation1							0.805
Confirmation2							0.860
Confirmation3							0.880
Satisfaction1			0.886				
Satisfaction2			0.865				
Satisfaction3			0.862				
Continuous intention1		0.891					
Continuous intention2		0.896					
Continuous intention3		0.874					
Service Quality1				0.887			
Service Quality2				0.894			
Service Quality3				0.850			
Social Influence1					0.877		
Social Influence2					0.857		
Social Influence3					0.850		
Trust1						0.863	
Trust2						0.883	
Trust3						0.810	

5.2 Structural Equation Modelling Analysis

The research model and hypotheses were evaluated using structural equation modelling (SEM) to see how well they were represented by the collected data. The main reason for its popularity is due to its ability to impute relationships between unobserved constructs from observable variables (Hancock & Schoonen, 2015). AMOS is used in this study to confirm the correlations between components and to evaluate the research model's hypotheses.

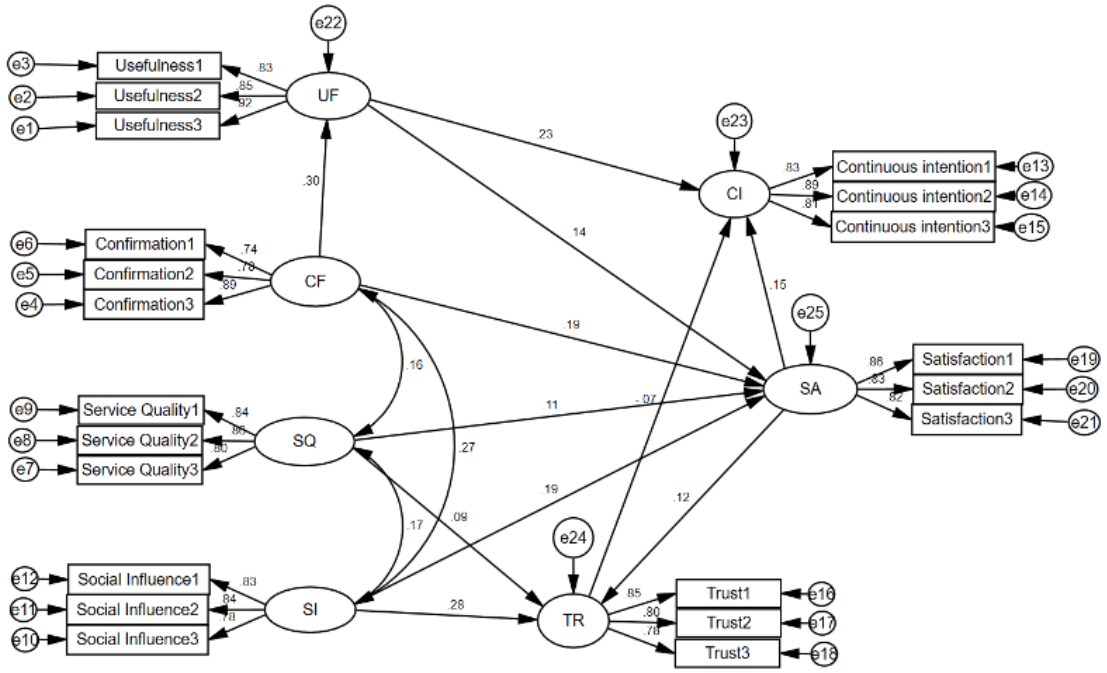

Figure 5. Structural model

5.2.1 Model fit

The research model fit was examined using five commonly used model-fit measures: 2/df (3), GFI (>0.90), RMSEA (0.08), CFI (>0.9), and NNFI (>0.9). Table 13 states that the research model fits the study's data effectively (Gefen, Straub, & Boudreau, 2003; Bentler & Bonett, 1980). (2/df = 1.627, GFI = 0.925, RMSEA = 0.044, CFI = 0.969, NNFI = 0.964).

Table 13. The recommended and actual values of fit indices for the research model.

Fit indices	Recommended value	Actual Value
Chi-square/degrees of freedom (χ^2/df)	< 5.00 (Hair, Anderson, Tatham & Black, 1998)	1.627
Goodness-of Fit Index (GFI)	>0.90 (Gefen, Straub & Boudrean, 2000)	0.925
Root Mean Square Error of Approximation (RMSEA)	< 0.08 (Hair, Anderson, Tatham & Black, 1998)	0.044
Comparative Fit Index (CFI)	>0.90 (Gefen, Straub & Boudrean, 2000)	0.969
Non-Normal Fit Index (NNFI)	>0.90 (Hair, Anderson, Tatham & Black, 1998)	0.964

5.2.2 Hypotheses testing

AMOS 23.0 was utilized for hypothesis testing in order to validate the importance of each path of the research extended ECM model. This study's 11 hypothesised correlations between 7 constructs are presented in Table 14. The findings considerably support most of the hypotheses (H1, H2, H3, H4, H7, H8, H9, H10), with a marginally significant connection between service quality and satisfaction (H5, P0,07 percent). The association between service quality and trust (H6), and trust to continuous intention (H11), however, do not support the assumptions.

Table 14. Summary of hypotheses testing results.

Hypotheses	Path	Beta	P	Results
H1	CF→UF	.30	***	Supported
H2	CF→SA	.19	.006	Supported
H3	UF→SA	.14	.027	Supported
H4	UF→CI	.23	***	Supported
H5	SQ→SA	.11	.067	Supported *marginal significant
H6	SQ→TR	.09	.134	Not supported
H7	SI→SA	.19	.004	Supported
H8	SI→TR	.28	***	Supported
H9	SA→CI	.15	.024	Supported
H10	SA→TR	.12	.020	Supported
H11	TR→CI	-.07	.298	Not supported

Note. *: p < 0.1; **: p < 0.01; ***: p < 0.001

According to the findings, confirmation has a favourable effect on perceived usefulness (β=0.30, p<.001) and satisfaction (β=0.19, p<.01), hence confirming H1 and H2. H3 was approved since perceived usefulness was shown to have a significant positive impact on satisfaction (β=0.14, p<0.1). Perceived usefulness was shown to have a strong relationship with intention to continue (β=0.23, p<.001), supporting H4. Service Quality was shown to have a low-positive effect on satisfaction (β=0.11, p<0.1), stating that H5 was partially supported.

Social influence (β= 0.19, p<.01) had a positive effect on satisfaction, supporting Hypothesis 7, and social influence (β= 0.28, p<.001) had a positive effect on trust, supporting Hypothesis 8. Moreover, satisfaction (β= 0.15, p<0.1) had a positive influence on continuous intention, supporting Hypothesis 9; conversely, satisfaction (β= 0.12, p<0.1) had a positive effect on trust, supporting Hypothesis 10.

However, the relationship between service quality and trust was negligible (β=.09, p >0.1), which disconfirmed hypothesis 6. Furthermore, the data demonstrated that trust had a negligible effect on continuous intention (β= -.07, p >0.1), which supports H11. Most client projects contain several consultants from various consulting companies, which may not directly impact trust in service quality since questionnaire respondents cannot directly contribute to Nitor's service quality due to multiple parties' contributions. Regarding the small effect of trust on continuous intention, several other elements have been discovered to have a greater influence on the decision to continue.

6. Discussion and Implications

The purpose of this study was to test an expanded ECM model of consumers' continued interest in Consulting as a Service (CaaS). Variables such as service quality, social influence, and trust were added to the ECM model to acquire a more thorough knowledge of the underlying variables responsible for consumers' continued desire to use the services provided by the company. The study went on to look at their direct and indirect relationship to consumers' ongoing intentions. The PLS-SEM analysis results support the majority of the stated hypotheses.

6.1 Key findings

The data gathered supported 8 of the 11 hypotheses, 1 was moderately favourable, and 2 were rejected. Figue 6 represents supported hypotheses as a solid line, marginally supported hypotheses as a black dashed line, and disqualified hypotheses as a red dashed line.

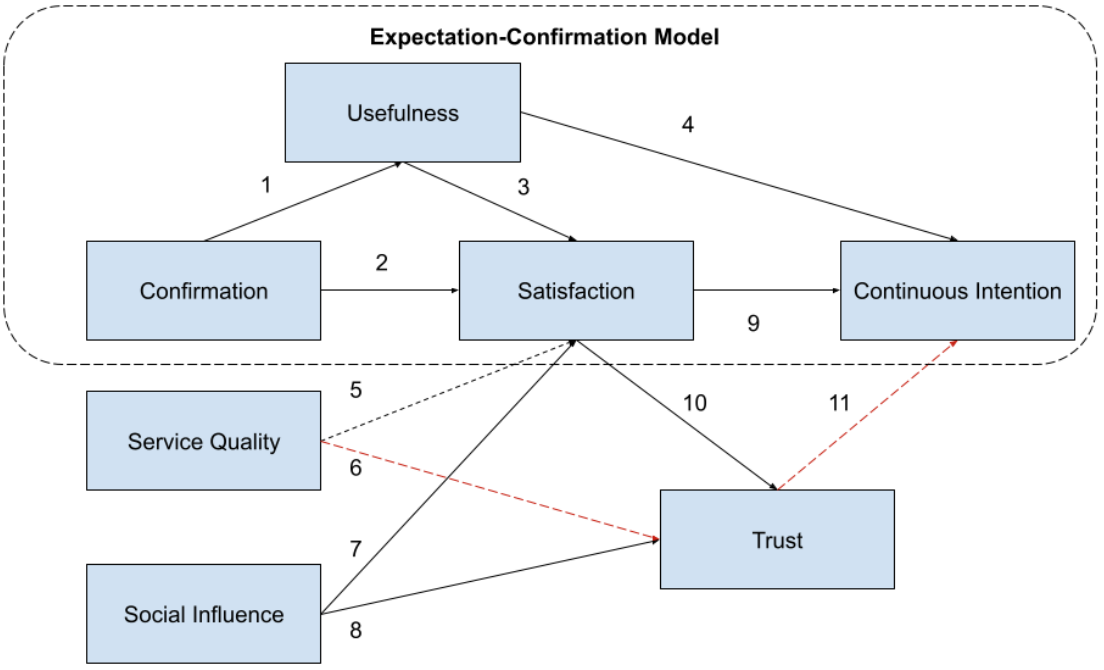

Figure 6. The results of the proposed ECM model.

6.1.1 Legacy ECM related findings

The research mode supports the legacy ECM, which is consistent with Bhattacherjee's (2001) legacy ECM study, which indicates in table 15:

Table 15. Hypotheses from ECM model.

Hypotheses	Path	Beta	P	Results
H1	CF→UF	.30	***	Supported
H2	CF→SA	.19	.006	Supported
H3	UF→SA	.14	.027	Supported
H4	UF→CI	.23	***	Supported
H9	SA→CI	.15	.024	Supported

- Confirmation has positive influences on usefulness and satisfaction.
- Usefulness has positive influences on satisfaction and continuous intention.
- Satisfaction is identified as a significant predictor of continuance intentions.

Overall, confirmation, usefulness and satisfaction all have direct or indirect positive influence on customer continuous intention. In Nitor's case, we should pay extra attention toward these three dimensions.

6.1.2 Service quality related findings

The result showed that service quality had a marginal influence on customers' satisfaction and no influence on trust. There has been some inconsistent research on its favourable influence on contentment. According to Zhou (2013), service quality has little effect on consumer satisfaction levels. However Tsent et al. discovered that system quality had a positive influence on user satisfaction (β=.12, $p < 0.01$) which is consistent with this research (β=0.11, $p<0.1$). This indicates that providing higher-quality service increases satisfaction.

Many researchers' studies have found service quality positively influences users' trust as well. For example, according to Guy Pare et al. (2020) service quality directly influenced trust (β=.88; P<.001) in the context of patients' intention to continue using teleconsultation. Nonetheless, several studies verified the study's findings that service quality had no direct impact on trust. In 2016, Chiou discovered that service quality had no direct influence on trust. However, these findings do not imply that service quality is not an important aspect in gaining the trust of users.

With so many CaaS suppliers on the market, a disgruntled customer may migrate to another service provider if the quality of the service is not up to par. This implies that when a company delivers high-quality service, consumer happiness is high, and the desire to switch is low. Within years the level of service quality can remain to be very high and customers may decide that it is not only the merit of developers, but the whole team in general, which is also true. Nevertheless service quality is not the only construct that has a final decision on customer's satisfaction and as a result on continuance intention. The price of the service may vary from one CaaS to another and customers might be dissatisfied with the level of pricing for the same service that can be done much cheaper, without taking service quality into consideration when making the final decision. In the public sector tendering price may have an impact on final decision as consulting services of experienced developers cost more than internal developers with usually less working experience.

6.1.3 Social influence related findings

The result indicated that social influence had a positive influence on satisfaction and trust. The research findings on the significance of social influence as a prerequisite of trust is consistent with other studies. Chin et al. (2019) study found the Beta test of slope ($\beta = 0.416$), indicates that there is a positive relationship between social influence and trust in the internet. This supports the result from this study.

However, regarding the research finding that social influence had a positive influence on customer satisfaction. Very limited previous study has been done, and only inconsistent research papers can be found. Hossain et al. (2021) found the result which did not confirm the hypotheses of social influence has a positive influence on satisfaction.

The results indicate that the impact of social influence does have a positive impact on satisfaction. However, very limited studies can be found easily from the existing published research studies, which suggests a direction for future research. Company will continue to invest time and effort in building the company image, as it brings new customers and also in the hiring process of new developers.

6.1.4 Trust related findings

The study model did not support H11 assumption, which is that trust has no substantial effect on consumers' inclination to return. From Hsu et al. (2015) online group-buying behaviour study, the research received the same finding. On the contrary, Kim and Han (2009) effectively showed that consumer trust can enhance their intention to return. In the study by Grenier Ouimet et al. (2020), a negative and nonsignificant path coefficient (β=–.06, P<.27) disconfirmed the hypothesis for the prediction that patients who have more trust in a medical teleconsultation platform will be more likely to use it again.

This is not to say that consumers' intentions to continue using CaaS are unaffected by trust, which might be true only in this context or by the opinions from the questionnaire respondents. It cannot claim that such interactions do not exist in the context of CaaS, which can be or has been confirmed by other scholars. There is no connection with security reasons as in the software that can influence the trust of the company in continuance of consulting as a service.

According to the findings of this study, customer satisfaction has a significant impact on trust. Consistent with Kim and Han (2009) findings, the results revealed that customer pleasure had a major impact on trust. According to Hsu et al. (2015) model, satisfaction has a considerable effect on users' trust in online group-buying contexts for high-habit user groups (path coefficient = 0.345, 99 percent confidence level). Therefore, the present findings reinforce the validity of the proposed ECM model in explaining clients' adoption of CaaS.

7. Conclusion

Through structural equation modelling in the context of an empirical research from Nitor, this study investigated the effect aspects of service quality, social influence, and trust. Furthermore, its goal was to identify the aspects that have a major or insignificant effect on users' continual intention decision making. As a result, the following research questions were answered in this study:

Research Question 1 (RQ1): What studies related to IT consulting continuance intention other researchers have done based on ECM?

In the conducted SLR, the results show there are no studies done towards consulting as a service in IT companies that are based on ECM. Though there are a lot of other studies that can be considered as primary studies and additional subquestion is to find out by applying the research model to the data collected from the customers and by using additional constructs in the final model in order to get valuable results that could help the company to improve. In this way this thesis extends the knowledge about usage of ECM in the consulting area.

Research Question 1.1 (RQ1.1): Is it possible to use ECM for IT consulting company continuance intention?

The extended ECM with the additional constructs showed its reliability to be used for consulting companies that are selected after the SLR and in discussion with the company.

Research Question 2 (RQ2): What factors should be integrated to ECM for investigating continuance usage of IT-consulting services provided to other companies?

The following constructs were selected for the final research model: service quality, social influence and trust, some are specified by the company. And following connections are used to find the constructs that have influence on customers' continuance intention: confirmation to perceived usefulness, confirmation to customer satisfaction, perceived usefulness to customer satisfaction, perceived usefulness to continuance intention, service quality to customer satisfaction, service quality to customer trust, social influence to satisfaction, social influence to trust, satisfaction to continuance intention, satisfaction to trust, trust to continuous intention. While the supported hypotheses are that social influence has a positive effect on satisfaction and trust, as well as satisfaction has a positive influence on trust.

7.1 Limitations

Although this survey provided a more comprehensive view of customers' continuous willingness to use consulting as a service, its limitations must be recognized. To begin, future researchers might utilise a broader sample distribution than those used in this study in order to examine whether there is a deviation from this finding. The data in this study was obtained from a single business, and it would be fascinating to observe if widely collected data from CaaS IT organisations had different conclusions. As a result,

the generalizability of the study's findings is a major limitation. Because its technique was established by a single firm, any generalisations should be approached with care.

Second, the outcomes of this method may vary depending on the conditions or even the company. As a consequence, future researchers should modify this model to diverse scenarios, such as company types, location, and so on, in order to discover cross-cultural variances.

Finally, there may be other factors influencing customers' continuance behaviour, intention, and satisfaction beyond those examined in the study. There might be other elements that have a greater impact on customers' long-term intentions. The current study should not be interpreted as exhaustive, as other variables, measures, or constructs, such as switching intention, social media influence, and so on, as well as variables specific to the situation or individual, can be identified that may also account for client satisfaction and retention. Further inquiry is thus required to find other elements that may potentially influence consumers' ongoing decision to use CaaS.

Overall, the current study's restricted scope highlights the importance of expanding its results to other service industries, as well as the whole IT industry in other countries. Despite these limitations, this study makes a timely attempt to build a complete model of CaaS consumers' continuous intention in terms of service quality, social influence, and trust, therefore providing a foundation for future studies and activities connected to consumer continuous intention.

7.2 Insights for future research

This study offers numerous findings that may be relevant for future CaaS research. First, this paper presents an expanded ECM model with seven elements that may guide CaaS continuous intention, at least in the IT business. This study expands existing research in this field by proposing a theory-driven research approach that not only extends ECM but also can guide future research on usage of CaaS. Future studies may be focused on a bigger extension of ECM with other constructs and additional connections between those. In a way other models can be merged in the particular model to have another point of view on the situation, and to compare those results.

The findings have a number of theoretical ramifications. First, to the best of our knowledge, there has been very little research to conceptually explain or empirically assess the impact of perceived service quality, social influence, and perceived trust on consulting as a service continuation intentions. Thus, it has been added to theory by modelling both the joint and individual influence of these components on continuation intentions, which had previously received little attention. Second, this work has made a theoretical contribution by defining a complete set of attributes that aid in the prediction of the continued availability of consulting as a service. Thus, by bringing some fresh insights and explanations to continuance modelling, this study has increased information on anticipating consumers' continuous intentions.

The study's findings have substantial practical consequences for corporate executives. The study specifically emphasises that social effects play a vital role in increasing customer happiness and trust in the organisation. Based on the structural model evaluation results, it is also critical for CaaS organisations to recognize that service quality impacts user satisfaction. As a result, it is critical to alleviate these worries by

delivering better and more trustworthy quality solutions that fulfil clients' demands and satisfaction, which in turn influences their ongoing purchasing decisions. Finally, the findings corroborate the ECM concept. As a result, it is proposed that perceived usefulness and perceived confirmation both play a role. CaaS firms should obtain client feedback on usefulness and confirmation on a regular basis to avoid customer churn.

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Appendix A. Primary studies

Index	Title	Context	Publish year	Constructs
PS1	Exploration Of Text-based Medical Consultation Websites - Extending Expectation Confirmation Theory	Medical consultation websites	2012	Facilitating Conditions, Habit, Performance Expectancy, Price Value, Effort Expectancy, Social Influence, Lack of Motivation, and inadequate security
PS2	Understanding the Role of Mobile Internet-Based Health Services on Patient Satisfaction and Word-of-Mouth	Mobile internet-based health services	2018	Facilitating Conditions, Continuance Intention, Satisfaction, eWord-of-mouth, Perceived Risk, Perceived Interactivity, Perceived Usefulness, Confirmation
PS3	Analysis of User Satisfaction Factors of E-Kinerja Application as Utilization of the Paperless Office System	Paperless office system and application	2021	Perceived Ease of Use, Confirmation, User Satisfaction, Perceived Usefulness, Continuance Intention to Use, Net Benefit, Use
PS4	Success factors driving consumer reuse intention of mobile shopping application channel	Mobile shopping application	2021	Intention to Reuse, Perceived Value, Satisfaction, Information Quality, System quality, Service Quality, Savings, Entertainment, Parasocial Interaction
PS5	Investigating patients' intention to continue using	Teleconsultations	2020	Continuance Intention,

	teleconsultation to anticipate post crisis momentum: Survey study			Usefulness, Quality, Trust, Expectations Confirmation, Ease of Use, Service quality, Security, Confidentiality
PS6	The role of user adaptation and trust in understanding continuance intention towards mobile shopping	Mobile shopping	2021	Perceived Usefulness, Trust, Confirmation, Satisfaction, Adaptation, Continuance Intention
PS7	Determinants of Students' Intention to Continue Using Online Private Tutoring: An Expectation‐Confirmation Model (ECM) Approach	Online private tutoring	2021	Perceived Usefulness, Expectation Confirmation, Satisfaction, Continuance Intention
PS8	Understanding the Usage of Mobile Payment Systems - The Impact of Personality on the Continuance Usage	Mobile payment	2018	Effort Expectancy, Performance Expectancy, Social Influence, Facilitating Condition, Habit, Hedonic Motivation, Price Value, Trust, Perceived Risk
PS9	Do digital students show an inclination toward continuous use of academic library applications? A case study	Digital library	2021	Perceived Usefulness, Confirmation, Satisfaction, Continuance Intention, Service quality, Perceived Ease of Use, Affinity
PS10	Determinants of mobile bank usage among the bank users in North India	Mobile banking	2021	Perceived Usefulness, Perceived Ease of Use, Convenience, Security, Service

				Quality, Trust, Satisfaction, Continuance Intention
PS11	Extension of technology continuance theory (TCT) with task technology fit (TTF) in the context of Internet banking user continuance intention	Internet banking	2020	Task Characteristics, Task Technology Fit, Technology Characteristics, Confirmation, Perceived Usefulness, Perceived Ease of Use, Satisfaction, Attitude, Continuance Intention
PS12	To continue or not to continue: a structural analysis of antecedents of mobile payment systems in India	Mobile payment systems	2020	Perceived Trust, Convenience, Social Value, Satisfaction, Service Quality, Effort Expectancy, Attitude, Continuance Intention, Perceived Risk
PS13	An Empirical Study on Online Learners' Continuance Intentions in China	Online learning	2021	Course Quality, Service Quality, Interaction, Student-Student Interaction, Student-Instructor Interaction, Student-Content Interaction, Perceived Value, Continuance Intention
PS14	Advocating recycling and encouraging environmentally friendly habits through gamification: An empirical investigation	Circular economy	2021	Utilitarian value, Hedonic value, Confirmation, Cognitive-based attitude, Satisfaction, Word-of-mouth, Continuance Intention
PS15	Enterprise e-banking satisfaction and continuance in business	Enterprise e-banking	2021	Utilitarian value, Trustworthiness, Usability,

	operations			Satisfaction, Continuance Intention
PS16	Development of Instrument for Assessing Information Systems Continuance Use	Information Systems	2019	Prior Experience, Self Efficacy, Utilization, Perceived task-technology fit, Perceived Support, Perceived Usefulness, Confirmation, User Satisfaction, Continuance Intention
PS17	Can Affective Factors Contribute to Explain Continuance Intention of Web-Based Services?	Web-based services	2009	Confirmation, Satisfaction, Perceived Usefulness, Perceived Ease of Use, Familiarity, Intimacy
PS18	Determinants of Continuance Intention towards Banks' Chatbot Services in Vietnam: A Necessity for Sustainable Development	Banking Chatbot services	2019	Prior Experience, Self Efficacy, Utilization, Perceived task-technology fit, Perceived Support, Perceived Usefulness, Confirmation, User Satisfaction, Continuance Intention
PS19	What keeps online customers repurchasing through the internet?	Electronic Commerce	2006	Confirmation, Perceived Usefulness, Satisfaction, Customer Loyalty, Repurchase, Perceived Incentives
PS20	Exploring the Factors Affecting Learners' Continuance Intention of MOOCs for Online Collaborative Learning: An Extended ECM Perspective	Open online courses	2017	Confirmation, Satisfaction, Knowledge outcome, Performance Proficiency, Social Influence, Continuance

				Intention
PS21	The effects of product attributes and service quality of transportation card solutions on service user's continuance and word-of-mouth intention	Transportation card solutions	2013	Product Attributes, Service Quality, Confirmation, Perceived Ease of Use, Continuance, Word-of-mouth Intention
PS22	Cognitive Dissonance in Technology Adoption: A Study of Smart Home Users	Digitalisation	2020	Disconfirmation, Cognitive Dissonance, Regret, Guilt, Anger, Attitude change, Consonant Information Search, Behavior Change, Satisfaction, Perceived Wellbeing
PS23	User adoption and purchasing intention after free trial: an empirical study of mobile newspapers	Purchasing information services in mobile newspaper	2012	Perceived Ease of Use, Perceived Usefulness, Perceived Enjoinment, Confirmation, Satisfaction, Purchase/ Continuance Intention, Perceived fee
PS24	An expectation confirmation perspective of medical tourism	Medical tourism	2012	Overseas Medical Service Expectations, Perceived Overseas Medical service Performance, Confirmation of Expectations, Satisfaction, Intentions
PS25	Stage antecedents of consumer online buying behavior	Online shopping	2009	Perceived Usefulness, Satisfaction with Fulfillment Process, Confirmation with Fulfillment Process, Confirmation with Ordering Process,

				Satisfaction with Ordering Process, Continuance Intention
PS26	Exploring usage continuance of e-negotiation systems: expectation and disconfirmation approach	e-negotiation systems	2007	Perceived Usefulness, Positive Disconfirmation, Satisfaction, Continuance Intention
PS27	A unified model of IT continuance: three complementary perspectives and crossover effects	Workplace IT	2015	Subjective Norm, Perceived Usefulness, Disconfirmation, Habit, Continuance Intention, Satisfaction, Continuance Behavior
PS28	Exploring the influential factors of continuance intention to use mobile Apps: Extending the expectation confirmation model	Mobile applications	2018	Performance expectancy, Effort Expectancy, Facilitating Conditions, Hedonic motivation, Price value, Habit, Social Influence
PS29	Continuous usage intention to e-transaction cards in wholesale markets of agriproducts: empirical evidence from China	e-transaction cards	2021	Perceived Ease of Use, Perceived Usefulness, Perceived Privacy Security, Perceived Transaction Security, Continuance Intention
PS30	Examining the determinants of continuance intention to use and the moderating effect of the gender and age of users of NFC mobile payments: a multi‐analytical approach	NFC mobile payments	2021	Subjective norms, Performance/Quality Value, Perceived Usefulness, Hedonic Motivation, Personal innovation, Customer Brand Engagement, Trust, Perceived Risk, Satisfaction, Moderating Effect of Gender and Age

PS31	Test of an integrative model of travel‐related social media users' switching intentions	Travel-related social media	2018	Utilitarian Values, Confirmation, Hedonic Values, Satisfaction, Sunk Costs, Switching Intentions
PS32	Extended expectation‐confirmation model to predict continued usage of ODR/ride hailing apps: role of perceived value and self‐efficacy	Ride services/ride hailing applications	2019	Perceived Usefulness, Perceived Ease of Use, Confirmation, Perceived value, Satisfaction, Self Efficacy, Continuance Intention
PS33	The future of smartwatches: assessing the end-users' continuous usage using an extended expectation-confirmation model	Smartwatches	2018	Perceived Usefulness, Confirmation, Satisfaction, Continuance Intention, Battery-life concern, Perceived Privacy, Perceived comfort, Perceived Accuracy and functional limitations, Hedonic motivation, Self-socio motivation
PS34	Examining the Role of Tie Strength in Users' Continuance Intention of Second-Generation Mobile Instant Messaging Services	Mobile instant messaging services	2018	Confirmation of Social value, Confirmation of Hedonic Value, Confirmation of Utilitarian Value, Satisfaction, Tie Strength, Perceived Critical Mass, Continuance Intention
PS35	Building Consumers' Trust in Electronic Retail Platforms in the Sub-Saharan Context: an exploratory study on Drivers and Impact on	Electronic Retail Platforms	2020	Perceived Usefulness, Information Quality, Perceived Ease of Use, Perceived Risk, Age, Gender,

	Continuance Intention			Frequency, Hedonic motivation, Social Influence, Trust, Continuance Intention
PS36	Understanding continuance intention to use online to offline (O2O) apps	Online to offline	2020	Product Information Intensity, Transaction cost, Perceived Utilitarian benefits, Confirmation, Satisfaction, Continuance Intention
PS37	Understanding continued smartwatch usage: the role of emotional as well as health and fitness factors	Smartwatches	2021	Goal Pursuit Motivation, Self-Quantification Behavior, Perceived Usefulness, Confirmation, Continuance Intention, Satisfaction, Enjoyment, Device Annyance
PS38	What makes you continuously use chatbot services? Evidence from chinese online travel agencies	Chatbot services	2020	Confirmation, Satisfaction, Use Continuance, Understandability, Reliability, Assurance, Interactivity
PS39	Users Intention for Continuous Usage of Mobile News Apps: the Roles of Quality, Switching Costs, and Personalization	Mobile news applications	2019	System Quality, Service Quality, Switching Costs, Perceived Usefulness, Perceived Satisfaction, Continuance Intention, Information Quality
PS40	Understanding the Impacts of Information Quality, System Quality and Service Quality on Consumers' Satisfaction and Continuance Intention	Online shopping	2013	Information Quality, System Quality, Service Quality, Continuance Intention

PS41	Why People Want to Continuously Use Mobile IM Service: The Moderating Role of Perceived Value	Mobile Instant Messaging	2015	Referent Network Size, Perceived Complementarity, Interface Interaction, Social Interaction, Satisfaction, Perceived Value, Continuance Intention
PS42	Analyzing adoption factors of booking service platform for sport facilities with technology continuance theory model	Booking Service Platform	2019	Perceived Usefulness, Perceived Ease of Use, Perceived Risk, Attitude, Subjective Norms, Continuance Intention, Confirmation, Satisfaction
PS43	A Study on the Relationship between Perceived Value and Behavioral Intention of Wechat Official Account: Library of Sichuan University as an Example	Wechat official account usage	2021	Emotional Value, Functional Value, Social Value, Perceived Value, Service Satisfaction, Functional Satisfaction, Reader Satisfaction, Behavioral Intention, Continuance Use, Frequent Use, Recommendation Willingness
PS44	Predicting Engagement on Collaborative Learning Systems: Perceptions of Postgraduate Students	Learning systems	2020	System Quality, Information Quality, Service Quality, Perceived Usefulness, Confirmation, User Satisfaction, Engagement
PS45	Driving Factors Analysis of Mobile Game In-app Purchase Intention in Indonesia	Mobile games	2020	Game Quality, Game Social Aspects, Monetary Value, Confirmation, Satisfaction, Continuance Intention, In-app Purchase Intention
PS46	Meta-analysis of	Studies on ECM-IS	2019	Perceived

	ECM-ISC model: evidence from Chinese literature	confirmation		Usefulness, Confirmation, Satisfaction, Continuance Intention
PS47	The impacts of user readiness on perceived value	Cloud computing readiness and readiness for change	2019	Technology Readiness, Readiness for Change, Perceived Usefulness, Confirmation, Satisfaction
PS48	An Extended Expectation Confirmation Model Of Continuance Intention To Use Online Food Delivery Services In Asia Country	Online food delivery services	2021	Value for money, Performance Value, Social Value, Emotional Value, Trust, Confirmation, Satisfaction, Continuance Intention
PS49	Can Affective Factors Contribute to Explain Continuance Intention of Web-Based Services?	Web-based services	2009	Confirmation, Satisfaction, Perceived Usefulness, Perceived Ease of Use, Familiarity, Intimacy, Continuance Intention
PS50	Why do customers intend to continue using internet-based sharing economy service platforms? Roles of network externality and service quality	Internet-based sharing economy service platforms	2020	Network Externality from the Customer's Side, Network Externality from the Service Provider's Side, Online Service Quality, Offline Service Quality, Confirmation, Perceived Ease of Use, Satisfaction, Continuance Intention, Perceived Usefulness
PS51	Expectation-Confirmation Model of Information System Continuance: A Meta-Analysis	Information systems	2016	Perceived Usefulness, Confirmation, Satisfaction, Continuance

				Intention, Continuance Behavior, Habit
PS52	Analysis of intrinsic factors of mobile banking application users' continuance intention: An evaluation using an extended Expectation Confirmation Model	Mobile banking application	2017	Perceived Usefulness, Confirmation, Satisfaction, Continuance Intention, Perceived enjoyment, Self Efficacy, Familiarity
PS53	Integrating Network Externalities into ExpectationConfirmation Model for E-Government Services Context : A Conceptual Model	e-governance	2011	Perceived Usefulness, Confirmation, Perceived number of user, Satisfaction, Continuance Intention
PS54	What motivates the reusing intention for SQA sites? An expectation confirmation model with perceived value	Social question and answer sites	2017	Perceived Value, Performance, Value of Costs, Emotional, Social, Confirmation, Satisfaction, Continuance Intention
PS55	Determinants of mHealth success: An empirical investigation of the user perspective	Medical application	2021	Perceived disease treat, Health Consciousness, Personalization, Interaction, Mobile App Design, Social Networking, Attitude towards mHealth, Satisfaction, Continuance Intention, Word-of-mouth
PS56	Charting sustained usage toward mobile social media application: the criticality of expected benefits and emotional motivations	Mobile social media application	2021	Confirmation, Expected benefits, Emotional motivations, Satisfaction, Habit, Continuance Intention